

The Role of Gamification in Enhancing Customer Engagement: Insights from the E-Commerce Sector

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Abstract

Gamification has drawn a lot of academic and management interest as one of the creative engagement tactics required by the increasingly competitive e-commerce industry. This study examines how gamification might improve consumer engagement on e-commerce platforms. It is based on Self-Determination Theory and Engagement Theory. Structured questionnaires were used to gather data from 114 active gamified e-commerce application users using a quantitative study approach. According to the suggested model, customer engagement is a multifaceted term that includes customer lifetime value, customer influence value, customer referral value, and customer feedback value. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to examine the data. The findings suggest that gamification significantly improves all aspects of customer engagement, with the impacts being more pronounced for customer influence and feedback value. By extending engagement theory in digital commerce contexts and providing empirical validation of the multifaceted impact of gamification, the study adds to the body of literature. E-commerce companies should proactively develop gamified elements to encourage interactive engagement, co-creation, and long-term relational value, according to managerial implications.

Keywords: Gamification, Customer Engagement, E-Commerce, PLS-SEM, Self-Determination Theory

Introduction

The high pace of digital technologies and the gradual spread of the internet have radically changed the world of retailing, which has created the e-commerce market multiplied by many folds. The e-commerce sites have become a part of contemporary consumer life featuring convenience, diversity, and availability. Nevertheless, as the number of online markets is growing and competition increases, companies are finding it very difficult to distinguish themselves and retain customer attention. Within this vibrant and highly competitive market, it is no longer enough to simply lure the customers but to take them in meaningful and interactive ways so as to build long-term relationships and improve customer lifetime value.

Customer interaction has therefore become an important construct within modern day marketing books. It includes the cognitive, emotional, and behavioral aspects of the interaction of a customer with a brand or platform. Satisfied customers tend to develop positive attitudes of repeated buying, brand promotion, sharing, and engaging in feedback processes. Such actions yield not just short-term financial benefits, but also long-term relational value, which makes customer engagement a major success factor of an organization. As a result, companies are putting more efforts in strategies that extend beyond transactional relationships and are geared towards developing a stronger relationship with customers.

In this regard, gamification has drawn significant interest as a new and efficient approach to increasing the customer involvement in online settings. Gamification is described as the implementation of the concepts of game design (points, badges, leader boards, rewards, and challenges) in non-gaming situations to modify user behavior and enhance motivation. To allow users to enjoy themselves, e-commerce sites are also adding gamified elements, including reward points, spin-the-wheel games, quizzes, referral contests, and interactive challenges, to their

websites to provide engaging and enjoyable user experiences. These features do more than just attract the customers but prompt recurrent interactions, more extended use of the platform and increased levels of participation, increasing customer engagement.

The increasing popularity of gamification can be described in theory with the help of Self-Determination Theory and Engagement Theory. Self-Determination Theory argues that when people satisfy their psychological needs of autonomy, competence, and relatedness then they are intrinsically motivated. Gamification features are able to fulfil these needs as they give users the feeling of control (autonomy), achievement (competence), and social connection (relatedness). As an example, rewards and levels can increase the satisfaction of the user with their attainments, whereas leader boards and social sharing can create a sense of community and competition between the user. However, Engagement Theory focuses on active participation, interaction, and meaningful involvement, which are the main aspects of gamified experiences. The combination of these theories offers a strong basis on the impact of gamification in driving customer engagement within the e-commerce environment.

Although the strategy of gamification is currently becoming more popular among e-commerce companies, the current body of research on its efficacy is sparse and disjointed. Numerous previous works have concentrated on general user engagement or behavioral intentions whereby customer engagement is usually regarded as a single dimension. Nevertheless, customer engagement is multidimensional in nature, and it incorporates many elements, including customer lifetime value, customer influence value, customer referral value, and customer feedback value. All these dimensions denote a unique manner through which customers can be a source of organisational value both through direct purchases and indirect contribution like referrals, influence and sharing of knowledge. To develop the theory of gamification and apply it in practice, it is necessary to have a thorough insight into the role of gamification in these various dimensions.

To fill this gap, the current research will focus on investigating the contribution of gamification to the customer engagement improvement in the e-commerce industry through the prism of a multidimensional approach. In particular, the paper examines the effects of gamification on customer lifetime value, customer influence value, customer referral value, and customer feedback value. In order to meet this goal, the quantitative research design is used, and primary data are gathered among the users who have encountered gamification options on the e-commerce websites. The analysis of the data is provided with the help of the Partial Least Squares Structural Equation Modelling (PLS-SEM) because it is applicable in studying the complex relations among several constructs.

The research adds to the current literature review by offering empirical support of the multidimensional effects of gamification on customer engagement in e-commerce. Moreover, it provides useful insights to managers and practitioners, indicating that the strategic design and implementation of gamified features can have a significant positive impact on customer interaction, engagement, and relational value over the time. Gamification can be a potent instrument of establishing sustainable customer engagement and competitive advantage in a highly competitive digital marketplace, which can be leveraged effectively.

2.Literature Review

In recent years, the concept of gamification has become very popular as businesses look for new and creative methods to improve client interaction in digital settings. According to Deterding et al. (2011), gamification is the use of game design elements—such as points, badges, leader boards, and rewards—in non-gaming situations to affect user behavior and boost motivation. Gamification is used in e-commerce to produce engaging and interactive experiences that motivate consumers to interact with platforms more thoroughly.

Customer engagement, a key concept in marketing literature, refers to a customer's cognitive, emotional, and behavioral investment in specific brand encounters (Brodie et al., 2011). Customers who are engaged are more likely to participate, be loyal, and advocate for the company, all of which contribute to its success. Kumar et al. (2010) describe customer engagement as a multidimensional construct that includes customer lifetime value, customer referral value, customer influence value, and customer knowledge (feedback) value. This multidimensional viewpoint offers a thorough grasp of how customers contribute to company value beyond direct transactions.

Several research has investigated the link between gamification and customer engagement. Hamari et al. (2014) discovered that gamification increases user activity and engagement, especially when users consider the system to be pleasant and useful. Similarly, Hsu and Chen (2018) found that gamification aspects increase user motivation and participation on online platforms by meeting intrinsic psychological demands. These findings are congruent

with Self-Determination Theory (Deci & Ryan, 2000), which states that people feel driven when their requirements for autonomy, competence, and relatedness are met—conditions that are frequently supported by gamification systems.

Gamification has been found to have a major impact on consumer behavior in e-commerce. Xi and Hamari (2019) discovered that gamified features, such as incentives and challenges, boost user engagement and purchase intent. Furthermore, Insley and Nunan (2014) claim that gamification builds stronger emotional ties with brands, which improves long-term customer relationships. However, while these studies demonstrate the good impact of gamification, the majority of them regard customer engagement as a one-dimensional term, restricting a nuanced understanding of its larger ramifications.

2.1 Previous Research

Earlier research has underscored the importance of gamification in improving the interaction with customers on online platforms. Studies have shown that gamification has a positive impact on user participation and interaction as it encourages users to use the features of platforms. With the introduction of game-like features, organizations can generate pleasant experiences in the form of making users spend more time on the platform and participate in different activities.

There is some empirical support indicating that gamification positively influences various aspects of customer engagement. Active participants in gamified activities have a higher chance of building a stronger connection with the platform, which results in higher loyalty and advocacy. Gamification does not only increase the customer purchasing behavior but also promotes referral activities, social influence, and knowledge sharing. These are the results that emphasize the relevance of gamification as a means of supporting both direct and indirect customer engagement.

Moreover, research has concluded that gamification affects customer influence value and customer knowledge value the most. The gamified leader board, reward, social interaction mechanics, and similar elements motivate users to post their success stories and experiences, which enhances the word-of-mouth communication and social influence. On the same note, active users tend to give feedback and engage in knowledge sharing processes and contribute to organizational learning and innovation.

Nevertheless, the current research is still insufficient in the capacity to study the overall multidimensional effect of gamification on customer engagement especially in e-commerce setting. Numerous researches address particular areas of engagement and do not consider its global dimensions. Thus, the paper attempts to fill this gap by examining how gamification impacts customer lifetime value, customer referral value, customer influence value, and customer knowledge value to gain a more comprehensive insight into customer engagement within the e-commerce platforms.

2.2 Hypotheses Development

According to the literature, gamification is very instrumental in increasing customer engagement through encouraging users to engage more often with e-commerce websites. Rewards, progress monitoring, and socialization are the features of gamification that make users engage actively in it and develop purchasing behavior and long-term value generation. This implies that Customer Lifetime Value (CLV) is positively affected by gamification.

On the same note, gamification features like referral bonuses, competitions, and incentives will motivate users to refer others to join the site. These capabilities increase Customer Referral Value (CRV) by encouraging customers to refer in new users via organized referral schemes.

Social sharing and interaction amongst users is also encouraged by gamification. The elements such as leader boards, achievements and collaborative activities encourage users to share experiences and influence others, thus boosting Customer Influence Value (CIV).

Moreover, gamification provides more interaction and the customers will give feedback, suggestions, and insights. This increases Customer Knowledge Value (CKV), since active customers would be more open to improving the products and services.

According to these arguments, the following hypotheses are stated:

H1: Gamification has a positive effect on Customer Lifetime Value (CLV).

H 2: Gamification positively influences Customer Referral Value (CRV).

H3: Gamification has a positive effect on Customer Influence Value (CIV).

H4: Gamification has a positive effect on Customer Knowledge Value (CKV).

Table 1: Operation Variable

Variable	Dimension / Indicator	Code
Gamification	Social Interaction	GM1
	Sense of World	GM2
	Goals	GM3
	Progress Tracking	GM4
	Rewards	GM5
	Prompts	GM6
Customer Lifetime Value (CLV)	Repeat Purchase	CLV1
	Cross- Selling	CLV2
	Up-Selling	CLV3
Customer Referral Value (CRV)	Referral Incentives	CRV1
	Reward for joining the referral	CRV2
	Helping others join	CRV3
Customer Influence Value (CIV)	Sharing Experience	CIV1
	Helping other users	CIV2
	Recommending Platform	CIV3
Customer Knowledge Value (CKV)	Providing Feedback	CKV1
	Reporting issues/Bugs	CKV2
	Participation in Discussions	CKV3

3. Research Methods

In this research, the quantitative research design is applied, and a structured questionnaire is used to collect primary data. The questionnaire will be shared using different social media to access a larger number of respondents. Responses are measured using a five-point Likert scale, where 1 is Strongly Disagree, 2 is Disagree, 3 is Neutral, 4 is Agree and 5 is Strongly Agree.

In data collection and analysis, various tools are applied. The questionnaire is created and delivered by means of Google Forms, and the data obtained is analysed with the help of Smart PLS software with the help of Partial Least Squares Structural Equation Modeling (PLS-SEM). Also, Publish or Perish tool is applied to facilitate the literature review process by locating suitable academic sources.

This study will target a population of people who have experience and are conversant with gamification features on e-commerce platforms. Particularly, the research targets customers who have experienced gamified features (games, rewards, or challenges) in e-commerce apps. In anticipation of the data relevance and accuracy, the response that was given by people who have never used such gamification features is excluded during the analysis.

This study uses the rule of thumb that is proposed by Hair et al. (2010) to determine the sample size to use in the study by stipulating a minimum ratio of 20 observations per independent variable. Since the research will have five independent variables, the sample size needed will be determined as 100 respondents. In this regard, the study will make sure that the sample collected will support this criterion of reliable statistical analysis.

4. Result and Discussions

The information used in this research was obtained using a structured questionnaire that was conducted using the Google Forms. The survey was shared on different social media, such as Instagram, Line, and WhatsApp, to get a wide selection of respondents. One hundred and forty-four valid responses were received in individuals who have experience with gamification features on Shopee. Table 2 shows the demographic and usage profile of the respondents who have used Shopee Games.

4.1 Respondents Profile

Table 2: Respondents Profile

Category	Description	Frequency(%)
Gender	Male	46 (40%)
	Female	68 (60%)
Age	< 25 years	74 (65%)
	25–34 years	32 (28%)
	34–45 years	5 (4%)
	>45 years	3 (3%)
Other E-commerce Platforms Used	Flipkart	59 (52%)
	Amazon	12 (11%)
	Meesho	6 (5%)
	Myntra	6 (5%)
Domicile	Mumbai	75 (66%)
	Pune	9 (8%)
	Bangalore	12 (11%)
	Delhi	5 (4%)
Frequency of App Usage (per week)	1–5 times	36 (32%)
	5–10 times	47 (41%)
	10–20 times	21 (18%)
	> 20 times	10 (9%)

4.2 Validity Test

Smart PLS software was used to test the validity of all measurement indicators. The findings show that not every indicator passed the needed validity test. The indicators whose factor loading was less than the threshold value of 0.70 were deemed to be inadequate and were not to be further analysed.

Table 3 shows the factor loadings of the indicators that were employed in this study. The loading of the indicator coded GM5 was not satisfying the minimum requirement and thus it was not included in the model. Once this indicator was removed, all the rest of the indicators showed satisfactory factor loading and were considered as valid to proceed with analysis.

Table 3: Validity Test Result

Variable	Code	LF
Gamification	GM1	0.815
	GM2	0.850
	GM3	0.899
	GM4	0.899
	GM6	0.731
Customer Lifetime Value	CLV1	0.806
	CLV2	0.909
	CLV3	0.867
Customer Referral Value	CRV1	0.829
	CRV2	0.826
	CRV3	0.738
Customer Influence Value	CIV1	0.924
	CIV2	0.942
	CIV3	0.915
Customer Knowledge Value	CKV1	0.864
	CKV2	0.760
	CKV3	0.777

Table 4: Convergent Validity Test Result

Variable	AVE	Validity
Gamification	0.708	Valid
Customer Lifetime Value	0.743	Valid
Customer Referral Value	0.638	Valid
Customer Influence Value	0.859	Valid
Customer Knowledge Value	0.642	Valid

Table 4 shows the results of convergent test of validity of each variable used in this study. The results show that the values of the Average Variance Extracted (AVE) of all variables are higher than the value of 0.5. Thus, judging by the validity test carried out on 114 respondents, it can be noted that the research meets the necessary requirements and can be analysed further.

4.3 Reliability Test

The reliability test was carried out in this study to determine the consistency of the questionnaire. The analysis used both the alpha of Cronbach and the composite reliability. A construct is said to be reliable when the value of Cronbach alpha is greater than 0.6 and composite reliability value is greater than 0.7. All the variables have Cronbach’s alpha (CA) and Composite Reliability (CR) values that are above these values as shown in Table 5. This means that all the variables are valid and can be applied in the research.

Table 5: Reliability Test Result

Variable	CA	CR	Reliability
Gamification	0.895	0.903	Reliable
Customer Lifetime Value	0.826	0.833	Reliable
Customer Referral Value	0.715	0.715	Reliable
Customer Influence Value	0.918	0.925	Reliable
Customer Knowledge Value	0.722	0.742	Reliable

4.4 Hypothesis Test

This study uses path coefficients and t-statistics to examine the relationships between variables. A relationship is considered statistically significant when the p-value is less than 0.05 and the t-statistic is greater than 1.98. The results of this analysis are presented in Table 6.

From Table 6, it is evident that all the hypotheses are supported, as the p-values are below 0.05 and the t-statistics exceed 1.98.

H1: Gamification has a positive impact on Customer Lifetime Value

The results clearly show that gamification has a positive influence on customer lifetime value. The p-value (0.000) is well below the acceptable limit of 0.05, and the t-statistic (5.532) is significantly higher than 1.98. Hence, it can be concluded that gamification has a statistically significant effect on customer lifetime value.

H2: Customer Referral Value and Gamification. The results presented in Table 6 indicate that gamification has a positive impact on customer referral value. The t-statistic (8.011) is greater than 1.98 and the p-value (0.000) is lower than 0.05, which proves that it is significant. Gamification, therefore, has a considerable impact on increasing the chances of customers recommending the brand to others.

H3: Gamification and Customer Influence Value Table 6 has indicated that gamification has a positive impact on the value of customer influence as well. The p-value (0.000) is less than 0.05, and the t-statistic (9.179) is greater than 1.98. These findings show that the statistically significant factor is the impact that gamification has on the customers as far as their capacity to change the perception and choices of other customers is concerned.

H4: Customer Knowledge Value and Gamification. The results also show that gamification has a positive impact on customer knowledge value. The p-value (0.000) and the t-statistic (10.603) meet both the significance criteria.

This implies that gamification has a significant role to play in improving the contribution of knowledge and information by customers.

Table 6: Hypotheses Result

Hypothesis	T-Stat	P Values	Results
Gamification and Customer Lifetime Value	5.532	0.000	Accepted
Gamification and Customer Referral Value	8.011	0.000	Accepted
Gamification and Customer Influence Value	9.179	0.000	Accepted
Gamification and Customer Knowledge Value	10.603	0.000	Accepted

4.5 Implication

This research suggests that Customer Influence Value (CIV) and Customer Knowledge Value (CKV) improve the most in response to gamification. It implies that gamification features developed by businesses (especially online marketplaces and e-commerce platforms) are supposed to be structured in a way that enhances these two dimensions in particular.

Integration of features that allow users to interact and remain connected with other users is one of the key ways. The fact that customers are able to see what the other customers are doing and going through, naturally promotes conversation and sharing, thus enhancing CIV. The use of elements like progress tracking and rewards based on achievements, provide a feeling of engagement and healthy competition. With the users viewing their progress against others, they will take part more actively and tell their stories which will usually result in positive word-of-mouth about the brand.

This can be further improved by including leader boards or scoreboards. These tools enable users to benchmark their performance against others, creating an atmosphere of competition, but fun. The presentation of rewards and achievements on these sites may also motivate other users to work towards such achievements, hence, enhancing the level of participation and engagement.

The other important aspect is to provide a feeling of control to the customers in the application. It improves their motivation and pleasure when the users believe that they can control their progress and results. This feeling of ownership will promote further engagement with the platform and will provide intrinsic motivation, stimulating customers to share their experiences and knowledge about the brand.

Organizations, to maintain customer knowledge contribution, should show their customers that their feedback is appreciated. The awareness and valuing of customers based on their contribution either by rewarding them with tangible or even intangible tokens can be a great motivating factor to remain active. Not only does this enhance CKV but also it develops a better relationship between the brand and the customer.

Finally, gamification should be successful with the design of an interactive and entertaining user experience. The environment and value proposition of the applications designed by companies should be designed carefully because the experiences of customers directly affect their behaviour. When users gain a high interest in a brand, they will have a higher chance of adding value by sharing knowledge and influencing others, thus increasing CIV and CKV.

5. Conclusion

The findings of the research paper clearly show that gamification has positive effects on all four dimensions of customer engagement, that is Customer Lifetime Value (CLV), Customer Referral Value (CRV), Customer Influence Value (CIV) and Customer Knowledge Value (CKV). These results may be correlated with previous studies, indicating that gamification is one of the effective tools to draw customers and motivate them to actively engage on the digital platforms. The paper supports the concept that customer engagement is a multidimensional concept, which is reflected in the following four variables.

More critical examination of the hypotheses indicates that, out of these dimensions, gamification affects Customer Influence Value (CIV) and Customer Knowledge Value (CKV) most. This implies that these two elements should be the focus of organizations in designing gamification strategies. The intrinsic motivation that is largely present in CIV is based on the user experiences in the application. This internal motivation can be increased by features like leaderboards or scoreboards that promote the feeling of competition and accomplishment. Conversely, CKV is a factor that is affected by both intrinsic and extrinsic factors.

Although users can develop the tendency to share knowledge out of their interest and engagement, external rewards like for example rewards, recognition, or tokens of appreciation can also motivate them to share. These customers, who form a strong bond and interest towards a brand, tend to become more active as they can influence others, and their insights are valuable to share. Hence, by paying attention to the improvement of CIV and CKV, more intensive and significant communication with customers can be achieved.

Irrespective of the contributions of the study, it has its limitations that it is important to note. The study is restricted to the e-commerce industry in Indonesia, which can be a limitation to generalize the research to other industries or geographic settings. Moreover, the research is mostly based on quantitative research; a study that, despite its strength in the statistical validation, might not be able to fully embrace the qualitative aspects of gamification like the perceptions, feelings, and experience that users might have. These constraints provide a pathway into future research that can be able to challenge the results in various fields and geographical locations and also integrate qualitative research methodology in order to gain a better insight on the effects of gamification on customer interactions.

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